REMARKS

I. Status of Application

Claims 1, 3, 4, and 11 are pending in this application. By this amendment, claims 1 and 4 have been amended and claims 2, 5, 6, 8, and 10 have been cancelled.

Entry of this Amendment after final rejection is considered proper for the following reasons:

1. The amendment presents no new issues that require further search or consideration. Since the amendment to independent claim 1 is made to incorporate the subject matter of cancelled claims 2 and 5, the Examiner has already had an opportunity to consider and search this subject matter.

2. The amendment cancels five claims and does not add new claims, thus simplifying the issues for appeal.

Accordingly, entry of the Amendment after final rejection is respectfully requested.

II. Rejection of Claims 6 and 10 under 35 U.S.C. § 102

Claims 6 and 10 have been rejected under 35 U.S.C. §102(b) over Japanese Patent 09160982 to Suzuki et al. (hereinafter "Suzuki"). This rejection is now moot due to the cancellation of claims 6 and 10. Accordingly, withdrawal of the rejection is respectfully requested.

III. Rejections under 35 U.S.C. § 103(a)

A. Claim 8

Claim 8 has been rejected under 35 U.S.C. §103(a) over Suzuki. This rejection is now moot due to the cancellation of claim 8. Accordingly withdrawal of the rejection is respectfully requested.

B. Claim 1

Claim 1 has been rejected under 35 U.S.C. §103(a) over Japanese Patent No. 08-075666 to Uchida et al. (hereinafter "Uchida") in view of U.S. Patent No. 4,525,741 to Chahal et al. (hereinafter "Chahal"). This rejection is respectfully traversed.

Even in combination, Uchida and Chahal fail to disclose the features of the invention of claim 1. Uchida fails to disclose a velocity-measuring means for measuring rotational velocity

of a transferring roller, a detecting means for detecting the entry and exit of the work board, a time measuring means for measuring times when the entry and exit of the work board are detected, and an identifying means for identifying the work board based on entry and exit times. As noted by the Examiner, Uchida also fails to show the line sensor comprising two types of image data.

Chahal fails to obviate the deficiencies of Uchida. Although Chahal teaches the use of a CCD camera as a line scanning device, Chahal fails to teach the additional features missing from the disclosure of Uchida. Accordingly, the two references combined do not show each and every feature of the invention.

Furthermore, with regard to obviousness, Uchida is not concerned with unexpected variations in roller velocity during multiple manufacturing processes. Uchida uses a speedometer 5 to detect board speed. Thus Uchida is not concerned with the variation in the time period experienced by a board during a plurality of manufacturing processes. Uchida performs scanning based on an instantaneously measured velocity value. Accordingly, it would not have been obvious to modify Uchida to incorporate the detecting means, time measuring means, and the velocity-measuring means as claimed.

Accordingly, since the references combined would not have resulted in the invention of claim 1, and since it would not have been obvious to modify Uchida to arrive at the invention of claim 1, withdrawal of the rejection of claim 1 under 35 U.S.C. §103 is respectfully requested.

C. Claim 2

Claim 2 has been rejected under 35 U.S.C. §103(a) over Uchida in view of Chahal and in further view of U.S. Patent No. 5,917,602 to Bonewitz et al. (hereinafter "Bonewitz"). Claim 2 has been cancelled, thereby rendering this rejection moot. However, the subject matter of claim 2 has been incorporated into claim 1. Accordingly, this rejection is traversed as it may be applied to amended claim 1. Bonewitz fails to obviate the deficiencies of Uchida and Chahal noted above. Bonewitz discloses a technique for determining whether molded articles such as glass bottles and jars contain stress-related defects. Bonewitz is unrelated to the field of building board manufacturing and is further unrelated to the detection of flaws during manufacturing. Accordingly, since Bonewitz fails to obviate the above-noted deficiencies and fails to render obvious the invention of claim 1. Withdrawal of the rejection is therefore respectfully requested.

D. Claims 3 and 11

Claims 3 and 11 have been rejected under 35 U.S.C. §103(a) over Uchida in view of Chahal and in further view of U.S. Patent No. 6,421,458 to Michael et al. (hereinafter "Michael"). This rejection is respectfully traversed.

Claims 3 and 11 depend from claim 1 and define further distinctive features of the invention. Michael fails to obviate the deficiencies of the above-noted references. Claims 3 and 11 are therefore allowable over the art of record for at least the reasons set forth above with respect to claim 1. Furthermore, while Michael discloses affine transformation, the system of Michael is not properly combinable with a system that also incorporates correction for varying velocities. Accordingly, withdrawal of the rejection is therefore respectfully requested.

E. Claim 4

Claim 4 has been rejected under 35 U.S.C. §103(a) over Uchida in view of Chahal and in further view of U.S. Patent No. 4,817,177 to Shimizu. This rejection is respectfully traversed. Shimizu fails to obviate the deficiencies of Uchida and Chahal noted above. Thus claim 4 is allowable for at least the reasons set forth above with respect to claim 1. Furthermore, Shimizu fails to show the claimed means for assigning every work board its own transmission channel for sequentially transmitting images of the board on each manufacturing process. Withdrawal of the rejection of claim 4 is therefore respectfully requested.

F. Claim 5

Claim 5 has been rejected under 35 U.S.C. §103 over Uchida in view of Chahal and in further view of Suzuki. Claim 5 has been cancelled and its subject matter has been incorporated into claim 1. This rejection is moot with respect to claim 5 and is respectfully traversed as it may be applied to amended claim 1.

Suzuki fails to obviate the deficiencies of Uchida and Chahal noted above. Initially, Suzuki fails to disclose a velocity-measuring means for measuring in real time the rotational velocity of a transferring roller for transferring the work board.

Furthermore, the Office Action alleges that Suzuki discloses a time measuring means for measuring times when the entry and the exit of the work board are detected from the detecting means. On the contrary, Suzuki does not disclose recording data measurement times. Instead,

Suzuki merely discloses that it is possible to record data collection times. In claim 1, the time measuring means measures the entry time and the exit time of a work board into and out of each manufacturing process and these times are recorded as being associated with acquired image data.

Additionally, Suzuki fails to disclose the identifying means of claim 1. The times recorded by Suzuki are not used to identify a particular board as required by claim 1. Specifically, claim 1 requires that an identifying means identifies the work board based on times of entry and exit of the work board into and out of the process and on the process number. Instead, the work board of Suzuki is identified only by the pallet numbers and bar code readers 29-34. See paragraph 27 of Suzuki.

Accordingly, even if combined, the references fail to disclose the invention of amended claim 1. Accordingly, the rejection cannot properly be applied to claim 1.

IV. Conclusion

Applicant believes that all claims are now in condition for allowance and withdrawal of all rejections is respectfully requested. If the Examiner believes that a telephone conversation would advance the prosecution of this application, she is invited to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized to charge any additional fees that are required or credit any overpayment to Deposit Account No. 19-2112 referencing Attorney Docket No. HIAS.95176.

Respectfully submitted,

Date: December 10, 2003

Kerry H. Owens
Reg. No. 37,412

SHOOK, HARDY & BACON LLP
600 14th Street, N.W., Suite 800
Washington, D.C. 20005-2004
Tel.: (202) 783-8400
Fax: (202) 783-4211